

The Characteristics and History of Science Fiction

- Science fiction is often based on scientific principles and technology.
- Science fiction may make predictions about life in the future.
- Science fiction often deals with aliens or with life on other worlds.
- Science fiction can comment on important issues in society

Science Fiction, genre of fiction set in some imaginary time or place. In its original usage in the 1920s, *science fiction* referred to stories that appeared in cheap, so-called pulp magazines, but science fiction now appears in all media, including motion pictures, staged dramas, television programs, and video games, as well as short stories and book-length works. *Science fiction* is sometimes abbreviated *SF*.

In a 1960 survey of the field, *New Maps of Hell*, British novelist Kingsley Amis wrote that science fiction deals with events that could not happen in the world we know but are presented on the basis of some innovation in science or technology. Such works are most often concerned with the impact of these innovations—or of change in general—on humanity.

Writers and readers generally agree that a work of science fiction should not violate what is known to science, even as it speculates widely and often wildly in areas outside the known. Although science-fiction stories, especially stories on television or film, sometimes disregard this rule, they are supposed to present events in a rational manner.

Common subjects for science fiction include the future, near and far, especially future societies better or worse than our own; travel through space or time; life on other planets; crises created by technology, or by alien creatures and environments; and the creation or destruction of worlds. Stories are generally characterized by radical changes from the present; large distances in space or long spans of time; and extreme, sometimes lurid imagery.

Content characteristic of science fiction can be found throughout literary history. But it was not until at least the 18th century that science-fiction works became separable from the main body of literature, except in their contributions to the 18th- and 19th-century works that make up the basis of the science-fiction genre. It gradually introduced the subjects and themes around which the science-fiction genre eventually solidified: imagined civilizations, travel in space, the future as a place different from the present, marvelous beings and inventions, and the use of science and scientific knowledge to increase plausibility and to predict or prophesy.

Imaginary voyages and tales of strange people or creatures in distant lands were common in Greek and Roman literature. The best-known ancient story of this sort is the *Odyssey*, attributed to Greek author Homer, which tells of the 10-year homeward journey of Trojan War hero Odysseus. The theme found further expression in the 14th-century book *Travels of Sir John Mandeville* (see Sir John Mandeville). Descriptions of trips to the Moon appear in the 17th-century writings of figures as diverse as British prelate and historian Francis Godwin, French writer Cyrano de Bergerac, and German astronomer Johannes Kepler, among others.

One of the finest tales of an imaginary voyage is *Gulliver's Travels* (1726) by Anglo Irish writer Jonathan Swift. Originally titled *Travels into Several Remote Nations of the World*, the book satirizes 18th-century society and political institutions, and spawned literary imitations in many languages. It was reprinted in France, along with many other works, in a 36-volume series called *Voyages imaginaires* (Imaginary Voyages, 1787-1789), which represents a significant attempt to define a genre. The series later provided inspiration and a literary category for French writer Jules Verne, who is often regarded as the father of science fiction. Verne's famous scientific novels, written from 1863 to 1905, were published under the banner of *Voyages extraordinaires* (Extraordinary Voyages).

Another early subject was the structuring of better societies here on Earth, rather than in the afterlife. The topic dates from at least the 4th century BC with *The Republic* by Greek philosopher Plato, but it was reintroduced and given a generic name when English statesman Sir Thomas More wrote *Utopia* (1516).

English philosopher Francis Bacon also described a better place in his book *The New Atlantis* (1627), which dealt with the fictional island of Bensalem. Many other works followed and established the genre, which also includes *dystopian* (antiutopian) fiction where life is worse than reality.

Science fiction would not exist in its present form without the social changes that took place at the beginning of the Industrial Revolution in the mid-18th century. The first utopian novel to combine the idea of social change with technological change, and also the first to set the new society in the future rather than in a remote location in the present, was French writer Louis-Sébastien Mercier's *L'an deux mille quatre cent quarante* (1771) (*Memoirs of the Year 2440*). It was extremely popular, went through many editions, and was widely translated before 1800.

Science and technology began appearing as a subject of fiction in the 19th century. The popular Gothic novel, which emphasized horror and mystery, led to *Frankenstein* (1818), an influential novel by British novelist Mary Wollstonecraft Shelley that explored the potential of science for good or evil. Many significant authors of the 19th century—such as Nathaniel Hawthorne, Edgar Allan Poe, and Mark Twain in the United States and Edward Bulwer-Lytton in Britain—worked with the themes of science fiction at one time or another. All of them influenced the science-fiction writers who followed.

The first great specialist of science fiction, however, was French author Jules Verne. Verne wrote about a wide variety of subjects, including geology and cave exploration in *Journey to the Center of the Earth* (1864; translated 1874), space travel in *From the Earth to the Moon* (1865; translated 1873), and underwater marvels in *20,000 Leagues Under the Sea* (1870; translated 1873). His adventurous tales were later popular fodder for some of the earliest science-fiction films.

Works by lesser-known authors were also important in shaping what would become science-fiction subgenres. A group of stories about wars of the future—many of which described elaborate weapons—was published in Britain and the United States after 1871, culminating in a vigorous subgenre (usually called future war fiction) between the early 1890s and 1914. Stories of lost cultures and unexplored corners of the world, in which the inhabitants often possessed superior science and technology, were

also popular in Britain and America. Two books of this type—sometimes called lost race fiction—by British novelist Sir H. Rider Haggard appeared in 1887: *She* and *Allan Quatermain*. A famous work in this category, *The Lost World* by British writer Sir Arthur Conan Doyle, was published in 1912.

The first major writer of science fiction in English was H. G. Wells. Wells began to write stories with science themes in 1894, demonstrating more interest in biology and evolution than in other sciences, and more concern about the social consequences of invention than about the accuracy of the invention itself. He called the genre scientific romance. Wells's reputation grew rapidly after the publication of *The Time Machine* in 1895. *The Island of Dr. Moreau* (1896), *The Invisible Man* (1897), *The War of the Worlds* (1898), *When the Sleeper Wakes* (1899), *The First Men in the Moon* (1901), and several important story collections followed in rapid succession. Wells then turned to other forms of literature during much of the rest of his career.

A number of other British authors wrote scientific romances during the first half of the 20th century; these books are now considered science fiction. Especially noteworthy are works by Matthew Phipps Shiel (*The Purple Cloud*, 1901), Olaf Stapledon (*Last and First Men*, 1930), and C. S. Lewis (*Out of the Silent Planet*, 1938). Among British writers of standard fiction who wrote one or two novels of a socially prophetic nature in the manner of Wells, the most notable are Aldous Huxley (*Brave New World*, 1932) and George Orwell (*Nineteen Eighty-four*, 1949).

Many important science-fiction writers wrote in languages other than English between the 1890s and the 1930s. These included Kurd Lasswitz in German, J. H. Rosny-Aine in French, Evgeny Zamiatin in Russian, and Karel Čapek in Czech. All of them were more or less contemporaries of Wells and wrote major works of science fiction before 1926. World War I (1914-1918) brought an end to the development of some European science-fiction literature, and World War II (1939-1945) halted the rest. By the time the genre picked up again, in the late 1940s and early 1950s, American science fiction had become the dominant tradition.

Most early science fiction was published in magazines and aimed at a readership of boys and young men. The authors of magazine science fiction used adventure plots but often emphasized the wonders of science and technology. At the same time, a related genre, invention fiction, flourished in so-called dime novels (cheap books costing 10 cents) of the late 19th century. Invention fiction, featuring the adventures of young male inventors, probably reached the height of its popularity in the *Tom Swift* series of boys' books that appeared between 1911 and 1939. The mass circulation magazines that were established in the 1890s published stories of science and adventure, but the fiction magazines after the turn of the century included many more science-fiction stories with added romance and wild adventure, such as those written by Americans Edgar Rice Burroughs (*A Princess of Mars*, 1912) and Garrett P. Serviss (*A Columbus of Space*, 1909).

The establishment of science fiction as a field separate from other types of fiction dates from April 1926, when American writer and publisher Hugo Gernsback published the initial issue of *Amazing Stories*, the first English-language science-fiction magazine. Gernsback believed that fiction could be a medium for disseminating scientific information and encouraging young would-be scientists, so he wrote and published stories with this purpose in mind. An early example of his writing, *Ralph 124C41+*, was serialized in his popular science magazine *Modern Electrics* in 1911. When Gernsback brought out *Amazing Stories* in 1926, he named the new genre *scientifiction*, explaining, "By 'scientifiction' ... I mean the Jules Verne, H. G. Wells, and Edgar Allan Poe type of story—a charming romance intermingled with scientific fact and prophetic vision." Gernsback changed the name to *science fiction* in 1929, when he founded the magazine *Science Wonder Stories*.

In the early years of *Amazing Stories*, Gernsback filled the magazine's pages with reprints of earlier works—stories by Poe, Verne, Wells, Serviss, Richard Adams Locke, A. Merritt, Fitz-James O'Brien, and Ellis Parker Butler. This practice provided models for this new genre and also gave it a respectable literary tradition. At the same time, Gernsback hired imaginative artist Frank R. Paul to paint extremely lurid back and front covers for the magazine. The effect was garish and striking, and worked against any claim to literary respectability.

From the beginning science fiction attracted young boys with scientific interests. Some of these young fans grew up to change the world. Famous scientists such as rocketry expert Wernher Von Braun, astronomer Carl Sagan, and astrophysicist Freeman Dyson all began as science-fiction readers. Gernsback encouraged new young writers, and he formed fan clubs for his magazines among the readership. Young boys all over North America, and later in Britain and elsewhere, formed science-fiction clubs in the 1930s. They began to correspond with one another and to circulate amateur magazines, known as fanzines. One such fanzine led to the creation of the comic-strip character Superman, just as an *Amazing* story, "Armageddon 2419 A.D." by Philip F. Nowlan, was the source of the popular movie and cartoon character Buck Rogers. In this way science fiction became more than a literary genre; it turned into a movement. Fans were encouraged to develop their interests and become scientists and engineers. They also were encouraged to write, imagine, and create.

Despite its popularity, science fiction remained primarily a magazine genre until the 1960s. The fiction published from 1926 to 1962 is often called modern science fiction, and almost all the novels published as science fiction during this period appeared first as magazine serials or were revised from magazine stories. By the end of the 1930s there were more than 20 science-fiction magazines in Britain and America.

After the founding of *Amazing Stories* in 1926, the next stage in the literary evolution of American science fiction began in 1937. That year, John Wood Campbell, Jr., became editor of *Astounding Stories*, and under his direction the magazine began to feature a new type of science fiction. As an author, especially when writing under the pseudonym Don A. Stuart, Campbell had already added mood and characterization to the technical and prophetic aspects of the genre. As an editor Campbell encouraged other writers to produce work of literary merit and fostered what has since been called the golden age of science fiction (1939-1949). Campbell's magazine introduced many soon-to-be famous science-fiction writers, including L. Sprague De Camp, Lester del Rey, Theodore Sturgeon, L. Ron Hubbard, Fritz Leiber, A. E. Van Vogt,

Arthur C. Clarke, and Robert Heinlein. Heinlein and Clarke went on to become two of the most popular and recognized writers in the history of the genre. Other major writers that began publishing during the golden age included Isaac Asimov and Ray Bradbury.

The greater urgencies of World War II not only ended the development of science fiction in Europe, but they also created a paper shortage in Britain and America that closed down many magazines. After the war science-fiction magazines came back strongly in the United States, however, with a new generation of editors. By the early 1950s as many as 40 titles were being published. Science fiction also began to be published in the new mass-market paperback form and in hardcover, first from small presses devoted to science fiction and then by major publishers.

The new magazines included *Fantasy and Science Fiction*, founded in 1949 by American authors and editors Anthony Boucher and Jesse Francis McComas, and *Galaxy Science Fiction*, founded in 1950 by American author and editor Horace Leonard Gold. In these leading magazines the emphasis shifted more toward literary, psychological, and sociological preoccupations, with some loss of scientific content. This era (1950-1962) is now often referred to as the silver age of science fiction.

Beginning in the 1950s a new concern for humanist values and literary technique emerged in science fiction. This was evident in the magazine reviews of editors Damon Knight and James Blish. It was also present in the stories of Theodore Sturgeon and in the literary pyrotechnics of the work of Alfred Bester. This concern could also be detected in Judith Merrill's annual anthology, *Year's Best Science Fiction* (beginning in 1956), and it rose from the growing influence of writers' workshops held in Milford, Pennsylvania—the home of Knight, Blish, and Merrill—at the annual Milford Science-Fiction Conference.

Science fiction also flourished in other parts of the world, most notably in eastern Europe and Russia, where a strong science-fiction tradition developed. Polish writer Stanislaw Lem used science-fiction settings to explore both scientific and philosophical concerns. His books include *Solaris* (1961; translated 1970) and *Dzienniki gwiazdowe* (1957; translated as two books: *The Star Diaries*, 1976, and *Memoirs of a Space Traveler*, 1982). In Russia important science-fiction writers included Ivan Efremov, author of the utopian *Tumannost' Andromedy* (*Andromeda Nebula*, 1956), and brothers Arkady and Boris Strugatsky, who began their prolific publishing career in the 1950s.

In the United Kingdom a movement known as the new wave entered science fiction primarily through the British magazine *New Worlds*, when Michael Moorcock became editor in 1964. This movement was committed to introducing the literary styles and attitudes of modernist literature into science fiction. Moorcock broke with science-fiction tradition, declaring all earlier science fiction to be obsolete. British science-fiction writers Brian Aldiss and James Graham Ballard were the new models. Their writings often focused on the near future, and they preferred to call what they wrote "speculative fiction." In the United States a great deal of new wave science fiction was published in anthologies of original work—in particular Knight's *Orbit* series (1966-1980) and Harlan Ellison's anthologies, beginning with *Dangerous Visions* (1967).

Many top science-fiction authors first became prominent in the 1960s, including Walter M. Miller (*A Canticle for Liebowitz*, 1960), Philip K. Dick (*The Man in the High Castle*, 1962), Ursula K. Le Guin (*The Left Hand of Darkness*, 1969), Samuel R. Delany (*Dhalgren*, 1975), and Roger Zelazny (*Lord of Light*, 1967). Perhaps the most famous of all was Frank Herbert, whose Dune chronicles include *Dune* (1965), *Children of Dune* (1976), and *God Emperor of Dune* (1981).

Integrating older science-fiction traditions with newer styles and attitudes became popular in the 1970s. It was a decade in which feminism was introduced as a theme of science fiction, and a time in which science fiction became a significant presence—and a force—in other media. It was also the first decade to produce science-fiction bestsellers, leading to profound changes in the position of the genre in the publishing industry.

The 1970s saw new female science-fiction writers in far greater numbers than ever before. Some of these authors were outspoken feminists—most notably writer and critic Joanna Russ, whose novel *The Female Man* (1975) challenged the tradition of male chauvinism in science fiction. The presence of women in a literary area historically dominated by men began to change the culture of the genre, particularly by raising the literary standard of characterization of both male and female characters in the works.

In the 1980s science fiction grew in prestige and completed a decades-long transition from a short-fiction magazine field to a novel and book-publishing field. The magazines that survived lost much of their prestige and nearly all of their economic dominance. The money was now in publishing books.

The science-fiction subgenre that drew the most attention during this decade was cyberpunk, which depicts frightening near-future worlds that are dominated by computer technology and large, multinational corporations. The first cyberpunk novel to appear was *Neuromancer* (1984) by William Gibson, who also wrote the cyberpunk novels *Count Zero* (1986), *Mona Lisa Overdrive* (1988), and *Virtual Light* (1993). Bruce Sterling was the spokesman of the movement, writing *Schismatrix* (1985) and *Islands in the Net* (1988) and editing the influential *Mirrorshades: The Cyberpunk Anthology* (1986). A useful overview of this period is Michael Swanwick's essay, "A User's Guide to the Postmoderns," which gives added context to the cutting-edge science fiction of the 1980s.

The 1990s saw revivals of interest in the subgenres of hard science fiction (stories based on solving a problem using knowledge of science or technology) and space opera (stories set in outer space), as well as the flowering of alternate history fiction (stories set in a world resulting from a key event or decision that differs from what actually happened in history). Philip K. Dick, who died in 1982, and the eminent Ray Bradbury became the first authors from the science-fiction field to be widely recognized simply as important writers. Many of their older and out-of-print works were re-released in new editions and simply labeled "fiction."

By the 1990s the technology to create special effects for television and movies had become dazzling. These media, especially the *Star Wars* and *Star Trek* franchises (see Science Fiction In Other Media), along with video games, radio plays, and other multimedia products, all competed heavily with science-fiction literature for the major share of popular attention. The cutting-edge, nonprint media in many cases drew ideas and imagery from the older science-fiction stories and illustrations of the 1930s and 1940s. The literature remained vigorous and innovative. Some of the era's newer science-fiction writers include Vernor

Vinge, Dan Simmons, Harry Turtledove, Lois McMaster Bujold, Orson Scott Card, and Connie Willis. As the 21st century began, science fiction seemed to become more vital—and more real—every day.

While science fiction is first and foremost a literary genre, the concepts and themes that it has set forth have also been adapted for use in radio and television shows, motion pictures, and other forms of mass media. Before the late 1960s, science-fiction-themed film, drama, radio, television, opera, and comics had generally been considered crude and unsophisticated. But that perception changed as technology, both in the filmmaking industry and in society as a whole, matured and proliferated.

Science fiction has interested filmmakers since the earliest days of motion-picture making. Most such films have been adaptations of science-fiction literature and comic strips.

Unlike science-fiction literature, science-fiction cinema was, until the 1970s, preoccupied with unnatural creatures of various sorts, giving rise to a subgenre commonly referred to as horror or monster movies. Motion pictures featuring alien beings, mutant creatures, or soulless humans were often melodramas with stereotypical characters. Common themes of such science-fiction motion pictures included the fallibility of scientists, the urgency of international cooperation against invaders from outer space or monsters from the earth, the rash hostility of people to anything alien, and the evil aspects of technology.

The earliest motion picture to treat fantasy, if not science fiction proper, was *Le voyage dans la lune* (A Trip to the Moon), created by French filmmaker and magician Georges Méliès in 1902. The motion-picture company of American inventor Thomas Edison produced *A Trip to Mars* in 1910. Early German filmmakers produced influential motion pictures culminating in such expressionistic films as *The Cabinet of Dr. Caligari* (1919) by Robert Wiene and *Metropolis* (1926) by Fritz Lang. Prominent American monster films, which have since inspired countless sequels, include *Frankenstein* (1931), *Dracula* (1931), and *The Mummy* (1932). Notable American serials of the 1930s were based on the comic-strip characters Flash Gordon and Buck Rogers. In 1933 *King Kong* and *The Invisible Man* appeared. In 1936 the ambitious *Things To Come*, a visionary treatment of a utopian technocracy, was produced in Britain. The screenplay was written by H. G. Wells, author of the novel *The Shape of Things to Come* (1933), from which it was adapted.

American producer and director George Pal made several well-regarded science-fiction motion pictures, beginning in 1950 with *Destination Moon* and continuing with *When Worlds Collide* (1951), *War of the Worlds* (1953), and *The Time Machine* (1960). Each motion picture won an Academy Award for its special effects. Other notable motion pictures of the genre in the 1950s include *The Day the Earth Stood Still* (1950), *Forbidden Planet* (1956), and *The Invasion of the Body Snatchers* (1956).

The critically acclaimed science-fiction motion pictures of the 1960s included *The Day of the Triffids* (1963), *Alphaville* (1965), *Fahrenheit 451* (1966), *Fantastic Voyage* (1966), and *Planet of the Apes* (1968). Beginning with *2001: A Space Odyssey* (1968), which proved that a contemporary science-fiction film could be ambitious and still be authentic, movies began to have a huge impact on the marketing of science fiction. The development of technologies to produce special effects was also a factor in this new legitimacy. Hits in the 1970s included *The Andromeda Strain* (1971), *The Man Who Fell to Earth* (1976), and *Close Encounters of the Third Kind* (1977). At the end of the 1970s, the blockbuster motion picture *Star Wars* (1977) broke new ground in special effects. This movie also established that the science-fiction film could have an enormous financial impact on the movie industry, the toy industry, and all mass media.

After *Star Wars*, science fiction became an important and lucrative film genre. Successful movies included the sequels to *Star Wars*, several motion-picture episodes of *Star Trek* (based on the television series), *E.T.—The Extra-Terrestrial* (1982), and the 2001 sequel *2010* (1984), demonstrate the popularity of space-based science-fiction motion pictures in the 1980s. Other movies were set on Earth and had pessimistic views of the future. Examples of this type include *Mad Max* (1979) and its sequels; *Blade Runner* (1982); and *Brazil* (1985). Other important science-fiction-inspired films of recent years included *Alien* (1979) and its sequels, *The Terminator* (1984) and its sequels, *Total Recall* (1990), *Jurassic Park* (1993), *Contact* (1997), *The Matrix* (1999), *Artificial Intelligence: AI* (2001), and *Minority Report* (2002).

One of the most successful science-fiction programs on radio in the 1930s was the serial *Buck Rogers* (1932-1947). In 1938 the realism of a broadcast production of H. G. Wells's *The War of the Worlds* by American actor and director Orson Welles aroused panic among some listeners, who believed the program's premise that Martians had invaded New Jersey. Later, such programs as *Dimension X* (1950-1951) and *X Minus One* (1955-1958) dramatized short stories.

Two American television programs from the 1950s are the science-fiction serials *Captain Video* (1949-1955) and *Tom Corbett, Space Cadet* (1950-1955). Programs popular with adults included *The Twilight Zone* (1959-1964; revived 1985-1987), *The Outer Limits* (1963-1965), *Lost in Space* (1965-1968), *Land of the Giants* (1968-1970), *The Immortal* (1970-1971), and *Star Trek* (1966-1969). The last enjoyed such success in syndication after three years on the air that it created a large fan movement, with thousands of followers attending major conventions. Its success inspired the sequel *Star Trek: The Next Generation* (1987-1994), which in turn inspired two spin-off series, *Star Trek: Deep Space Nine* (1993-1999) and *Star Trek: Voyager* (1995-2001). Science-fiction television shows of the 1970s and 1980s include *Battlestar Galactica* (1978-1980) and *Buck Rogers in the 25th Century* (1979-1981), both set in outer space. A popular science-fiction television show of the 1990s was *The X-Files* (1993-2002), about paranormal activity.

Source: Jefferson Parish Public Schools English Language Arts Department, Marrero, Louisiana

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